

REMARKS

Claims 1-68 were previously canceled. Claims 69-120 and 122, 124-125 are canceled and new claims 128-134 are added in this response. As a result, claims 121, 123 and 128-134 are pending in the application. The Office action dated June 18, 2004 objected to the specification for failing to disclose certain claimed elements. The Office action also rejected claims 69-103 under 35 U.S.C. § 112 first paragraph, as failing to comply with the enablement requirement and as being indefinite for failing to "distinctly claim the subject matter which applicant regards as the invention."

The Office action further rejected claims 121-126 under 35 U.S.C. §102(e) over Valve (U.S. Patent No. 6,449,593). The Office action rejected claims 69-93, 95-102 and 105-120 under 35 U.S. C. §103(a) as being unpatentable over Deline, et al., (U.S. Patent No. 6,420,975), or Finn et al. (U.S. Patent No. 6,535,609) in view of Matsuo (U.S. Patent No. 6,618,485) or Brandstein, et al. (U.S. Patent No. 5,581,620) or Nemirovski (U.S. Patent No. 6,670,379). The applicants respond as follows.

OBJECTIONS TO THE SPECIFICATION

The Office action alleges that the specification does not support that the microphone array is directional or that the microphone array may include silicon microphones. The applicants respectfully request reconsideration in view of the following remarks. The specification has been amended to recite that the microphone may be either directional or silicon. This is supported in the original specification in claims 32 and 37, therefore, no new matter has been introduced.

The Office action further objects to the specification as not disclosing certain limitations of claims 121-126, specifically, in respect to a first speaker and a second speaker and beams formed in association thereto, as the claim is now amended. The applicants respectfully traverse and request reconsideration. The amendments to claim 121 clarify the cooperation between the microphone array and the signal processor for forming at least a first and second beam. The applicants direct the attention of the examiner to page 3, lines 25-27 of the specification which recites, "The signal processor performs adaptive beam forming so that the microphone's pick-up pattern can be best directed at the speaker." The specification

further recites on page 5, lines 4-5, "The signal processor 22 is selectively directional between two potential audible command sources." It is readily understandable that audible command sources may be persons who are speaking, that is, speakers. Since the beam forming recited earlier is directed to a speaker, when there are two speakers it follows that the adaptive beam forming process would direct the microphone's pick-up pattern to each of the speakers.

The applicants request the objection to the specification be withdrawn in view of the above amendments and remarks.

SECTION 112 REJECTIONS

The Office action rejected claims 69-103 under the first and second paragraphs of 35 U.S.C. §112 with respect to claims related to determining the position of the microphone array. By way of the current amendments determining the position of the microphone array is no longer claimed, therefore withdrawal of the objection as being moot is appropriate.

SECTION 102 REJECTIONS

Claims 121-126 stand rejected under 35 U.S.C. §102(e) over Valve. Claim 121 has been amended to recite that the signal processing system has a first and second output associated with each of a first and second microphone beam. As described in the specification on page 3, lines 27-29, these outputs of the signal processor may be analog or digital (Fig. 1, 24).

While Valve has a beamforming microphone system, Valve has only a single output (ref. 62) for outputting the signal received and processed. Valve does not describe or suggest that more than one output is useful or desirable. Neither does Valve describe or suggest having the output available in more than one form (i.e. analog or digital). Neither would it be obvious to add a second output to Valve. There is no suggestion in Valve to add a second output, nor do the other prior art references teach or suggest having multiple outputs. Matsuo ('485) at Col. 10, lines 11-20 teaches that the speakers can be recorded or output separately but does not teach that the system has more than one output.

Valve does not teach all the limitations of amended claim 121, nor does Valve in combination with other cited art teach or suggest all the limitations of claim 121. Therefore, claim 121 is allowable over Valve and/or the combination of Valve with the other cited references. Likewise, claims 123, 126-129, dependent on claim 121 are allowable.

ALLOWABILITY OF NEW CLAIMS

New independent claim 130 incorporates the subject matter of previous claim 103 that was indicated as having allowable subject matter. For this reason, claim 130 and its dependent claim 131 are allowable.

Independent claim 132 recites a silicon microphone forming a part of the microphone array. In rejecting now canceled claims that recited a silicon microphone, for example, claims 101, 105-115, and 117-120, the examiner cited Nemirovski as teaching a silicon microphone, the combination with Deline allegedly motivated by a pressure sensor less susceptible to particulates from a pressure sensing environment. The applicants respectfully traverse.

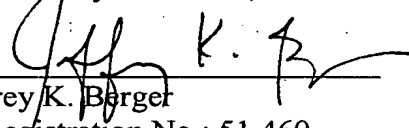
Nemirovski describes a microphone system mounted within a users ear canal. Nemirovski does not mention array microphones, beam forming, speaker selection, vehicular cabins, etc. Neither Nemirovski nor Deline discuss, teach, or suggest that particulates from a pressure sensing environment are a factor for consideration in selection of a microphone for a microphone array disposed within a vehicular cabin. Neither reference suggests even the slightest motivation to a combine an ear-mounted microphone that can optionally be a silicon microphone with a microphone array of a vehicular audio system, or why such a combination would be beneficial. Therefore, there is no motivation to combine Deline with Nemirovski, particularly that suggested by the examiner. A requirement for a *prima facie* case of obviousness under 35 U.S.C. §103(a) is a motivation to combine (MPEP 2142). The allowability of new claim 132 follows from the lack of motivation to combine the cited references in the manner suggested by the examiner to arrive at the claimed invention. Likewise, its dependent claims 133 and 134 are allowable.

In view of the above, each of the presently pending claims in this application is believed to be in immediate condition for allowance. Accordingly, the Examiner is respectfully requested to pass this application to issue. No fees beyond the one-month extension of time to respond are believed due, however, should an additional fee be required, the Commissioner is directed to deposit account 13-2855.

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Respectfully submitted,

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